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Xaver Laufenberg

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EXAMINER

CUEVAS, PEDRO J

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/582,926	Applicant(s) LAUFENBERG ET AL.	
	Examiner PEDRO J. CUEVAS	Art Unit 2839	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 5-9, filed April 13, 2009, with respect to the rejection(s) of claim(s) 16, 18, 20, 21, 25, 29 and 30 under 35 U.S.C. § 103(a) have been fully considered and are persuasive. Therefore, the rejection(s) have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 4,017,739 to Hapeman et al.
2. In response to applicant's argument that the prior art of record fails to teach voltage control being performed "*to regulate generator voltage.*" and torque control being performed "*to regulate a braking torque exerted by the generator.*", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.
3. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).
4. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

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Drawings

5. The drawings are objected to under 37 CFR 1.83(a) because they are incomplete. 37

CFR 1.83(a) reads as follows:

The drawing in a nonprovisional application must show every feature of the invention specified in the claims. However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (e.g., a labeled rectangular box). In addition, tables and sequence listings that are included in the specification are, except for applications filed under 35 U.S.C. 371, not permitted to be included in the drawings.

The drawings must show every feature of the invention specified in the claims.

Therefore, a flowchart showing the sequence of steps which compose the method of controlling the operation of a generator and a characteristic map defining the functional relationships of the claimed invention must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

6. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the controller's first and second area of operation as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

7. The drawings are objected to under 37 CFR 1.83(b) because they are incomplete. 37

CFR 1.83(b) reads as follows:

When the invention consists of an improvement on an old machine the drawing must when possible exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing

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sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 16-30 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The structure and steps required to perform voltage and torque control are critical and essential to the practice of the invention, are not included in the claim(s) and are not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

The claimed controller must have a particular and specific design which allows it to perform a sequence of steps that result in the output shown in Figures 3 and 4. In the alternative,

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a programmable controller must have a particular program or sequence of instructions that perform a sequence of steps that result in the output shown in Figures 3 and 4. The controller's design or operational program responsible for obtaining the operational parameters of the device and performing the control steps that result in the output shown in Figures 3 and 4 are critical and essential to the practice of the invention with undue experimentation.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 16, 18-24 and 26-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It must be noted that the language on lines 5-6 of claim 16 (*"a first area of operation in which a voltage control is performed, and at least one second area of operation in which a torque control is performed."*) is merely "result" language which cannot be relied upon to define over the prior art.

Also, the term *"area of operation"* in claim 16 is a relative term which renders the claim indefinite. The term *"area of operation"* is not defined by the claim(s), the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

12. The term *"a function of"* in claims 19, 23 and 27 is a relative term which renders the claims indefinite. The term *"a function of"* is not defined by the claims, the specification does

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not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

If the “acts” of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. *Schrader*, 22F.3d at 294-95, 30USPQ2d at 1458-59. Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process. MPEP 2106.

13. The term “*torque-influencing variable*” in claims 23 and 24 is a relative term which renders the claim indefinite. The term “*torque-influencing variable*” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. In any motor vehicle power generating system, a plurality of variables (e.g. mechanical load, electrical load, motor speed, generator speed, motor current, generator current, ect.) are individually or in combination capable of influence torque. Which one, and to what degree, is the one influencing the torque in the claimed system?

14. The term “*according to a functional relationship*” in claims 24 and 28 is a relative term which renders the claim indefinite. The term “*according to a functional relationship*” is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

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15. With regards to claims 19, 22-24 and 29, if the “acts” of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. *Schrader*, 22F.3d at 294-95, 30USPQ2d at 1458-59. Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process. MPEP 2106.

16. Claims 16-24 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are:

means for obtaining the operating characteristics or the system; and

means for generating the area(s) of operating characteristics.

It should be emphasized that “apparatus claims must be structurally distinguishable from the prior art.” MPEP 2114. In *In re Danly*, 263 F. 2d 844, 847, 120 USPQ 528, 531 (CCPA 1959), it was held that apparatus claims must be distinguished from prior art in terms of structure rather than function. In *Hewlett-Packard Co. v Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990), the court held that: “Apparatus claims cover what a device is, not what it does” (emphases in original). To emphasize the point further, the court added: “An invention need not operate differently than the prior art to be patentable, but need only be different” (emphases in original).

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17. If the application was actually directed to a device, it's structural composition, electronic architecture and method of operation the following rejection(s) would apply. This rejection(s) are based on the broadest possible interpretation of most of the claims.

Claim Rejections - 35 USC § 102

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

19. Claims 16-18, 21, 25-27 and 29 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,017,739 to Hapeman et al.

Hapeman et al. clearly teaches the construction of a lifting force responsive load control system, comprising:

a controller (Figure 1) configured to control a voltage of the generator by outputting a control signal to the generator in response to changes in the generator voltage, wherein the controller provides a first area of operation (Line F-G of Figure 2) in which a voltage control is performed to regulate the generator voltage, and at least one second area of operation (Line G-H of Figure 2) in which a torque control is performed to regulate a braking torque exerted by the generator; wherein the generator is coupled to an engine (Prime Mover 10) to generate electrical power.

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20. With regards to claim 17, Hapeman et al. disclose the width of the first area and the second area being defined according to the value of at least one operating parameter (current) of the electrical device that influences one of the torque and the generator voltage.

21. With regards to claim 18, Hapeman et al. disclose the first area for the voltage control extends a specified range (0-700 V) from about a setpoint voltage (Voltage Level 2).

22. With regards to claim 21, Hapeman et al. disclose the at least one second area for the torque control lies within a voltage range defined by two voltage boundary values (700 V and $(700 - (2 \times VL1))$).

23. With regards to claim 25, Hapeman et al. disclose a method for controlling the operation of a generator in connection with a vehicle electrical system of a motor vehicle, comprising the steps of:

recording a voltage of the generator (V_G), which is coupled to an engine (10) to generate electrical power;

determining (62) whether the recorded voltage lies in a specified range from a setpoint voltage;

performing a voltage control (Line F-G of Figure 2) in which the generator voltage is regulated with reference to the setpoint voltage, if the recorded voltage lies in the specified range from the setpoint voltage;

performing a torque control (Line G-H of Figure 2) in which a braking torque exerted by the generator is regulated, when the recorded voltage lies within a predetermined range defined by voltage boundary values; and

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specifying a highest priority for the voltage control (54), if the recorded voltage lies outside the predetermined range defined by the voltage boundary values.

24. With regards to claim 26, Hapeman et al. disclose the step of performing torque control, wherein the torque is controlled to vary linearly (Line E).

25. With regards to claim 27, Hapeman et al. disclose the step of performing the torque control, wherein the torque is changed as a function of time and a specified operating parameter (current) of an electrical device that includes the generator and a controller, wherein a value of the specified operating parameter influences the torque.

26. With regards to claim 29, Hapeman et al. disclose a width of a first area of operation in which a voltage control is performed and a width of at least one second area of operation in which a torque control is performed being predetermined.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PEDRO J. CUEVAS whose telephone number is (571)272-2021. The examiner can normally be reached on M-F from 9:00 - 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, T. C. Patel can be reached on (571) 272-2098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pedro J. Cuevas/
Examiner, Art Unit 2839
August 18, 2009

/Nicholas Ponomarenko/
Primary Examiner, Art Unit 2839
August 17, 2009